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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,263	03/26/2001	Hisanobu Ishiyama	81751.0011	9233
26021	7590	06/14/2004	EXAMINER	
HOGAN & HARTSON L.L.P. 500 S. GRAND AVENUE SUITE 1900 LOS ANGELES, CA 90071-2611			LAO, LUN YI	
			ART UNIT	PAPER NUMBER
			2673	17

DATE MAILED: 06/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/818,263

Applicant(s)

ISHIYAMA, HISANOBU

Examiner

Lao Y Lun

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.  
4a) Of the above claim(s) 5-7 and 14-17 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-4, 8-13 and 18-21 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 8-11 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizaki et al(EP 0,558,059) in view of Itoh et al(6,229,515).

As to claims 1, 2, 8-11 and 18-21, Ishizaki et al teach a liquid crystal device comprising a plurality of scanning lines; a plurality of data lines; a plurality of switching elements(104); a plurality of pixel electrodes connected to the plurality of switching elements; a plurality of row opposite electrodes arranged oppositely to the plurality of pixel electrodes through a liquid crystal layer; a scanning line driving circuit(101); a data line driving circuit(102) and a polarity inverting circuit(103, 111) for reversing a polarity of a voltage applied to the liquid crystal layer by changing a voltage supplied to an opposite electrode of a row corresponding to the selected scanning line in

synchronization with the scanning period(see figures 1-5; column 4, lines 16- 58; column 5, lines 1-58 and column 6, lines 1-2).

As to claims 1, 10 and 18, Ishizaki et al teach the polarity of a voltage supplied to an opposite electrode will be reversed line by line or frame by frame(see figures 1-4; column 3, lines 18-29; column 5, lines 26-58 and column 6, lines 1-2). Ishizaki et al fail to invert the polarity of a voltage supplied to an opposite electrode in each of the subfields.

Itoh teaches an LCD display apparatus for reversing the polarity of a voltage supplied to an opposite electrode(common electrodes) will be reversed in each of the subfields(see figures 2-8B; column 1, lines 19-44; column 2, lines 4-21 and lines 44-46; column 4, lines 49-67; column 6, lines 38-48; column 9, lines 1-56; column 10, lines 61-68; column 11, lines 1-5 and lines 63-68 and column 12, lines 1-35). It would have been obvious to have modified Ishizaki et al with the teaching of Itoh, so as to reduce the power consumption and improve image quality(see column 4, lines 43-56).

As to calms 1, 10 and 18-21, Itoh teaches a signal control circuit(14, 16) and a counter circuit(15)(see figure 2).

As to claims 8 and 17, Ishizaki et al teach M rows of opposite electrodes are insulated from each other(see figures 1 and 4).

3. Claims 3-4 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizaki et al (EP 0,558,059) in view of Itoh et al(6,229,515) and Hosokawa et al(4,393,380).

As to claims 3-4 and 12-13, Ishizaki et al teach a polarity inverting circuit(103, 111) comprising a shift register for shift a clock signal(see figures 1, 4 and column 4, lines 16-21). Ishizaki et al fail to disclose the polarity inverting circuit having a shift register for shift electric potential for applying to the row of opposite electrodes.

Hosokawa et al teach an LCD display having a common driver(34) having a shift register for performing a memory function(see figures 4, 7-9; column 7, lines 35-68 and column 8, lines 1-8). It would have been obvious to have modified Ishizaki et al as modified with the teaching of Hosokawa et al, so as to simplify the driving circuit.

### ***Response to Arguments***

4. Applicant's arguments filed on May 3, 2004 have been fully considered but they are not persuasive.

Applicant argues that Ishizaki and Itoh fails to disclose a polarity inverting circuit configured to invert a polarity of a voltage applied to the liquid crystal layer by changing a voltage supplied to an opposite electrode of a row corresponding to the selected scanning line in each of sub-fields on page 11. The examiner disagrees with that since Ishizaki teach a polarity inverting circuit(110, 111, 103) configured to invert a polarity of a voltage applied to the liquid crystal layer by changing a voltage supplied to an opposite electrode of a row corresponding to the selected scanning line in each of frame or line(see figures 3-5; column 5, lines 31-58; column 6, lines 1-2 and column 7, lines 51-55) and Itoh teaches an LCD display apparatus for reversing the polarity of a

voltage supplied to an opposite electrode(common electrodes) will be reversed in each of the subfields(see figures 2-8B; column 1, lines 19-44; column 2, lines 4-21 and lines 44-46; column 4, lines 49-67; column 6, lines 38-48; column 9, lines 1-56; column 10, lines 61-68; column 11, lines 1-5 and lines 63-68 and column 12, lines 1-35). Thus, the combination of Ishizaki and Itoh teach for inverting the polarity of a voltage supplied to an opposite electrode in each sub-fields since a frame, a field and a sub-field are all display periods. If the the polarity of a voltage supplied to an opposite electrode can be reversed in each frame, so does in each field and each sub-field.

Applicant argues that Ishizaki does not teach supplying a binary voltage to a plurality of pixel electrodes on page 13. Even though Ishizaki does not directly point out a binary voltage applied to a plurality of pixel electrodes, Ishizaki implies that a binary voltage should be applied to a plurality of pixel electrodes since Ishizaki teaches a display data stored in a computer(see column 1, lines 10-17). Also, Itoh et al teach binary voltage(D1) applied to a plurality of pixel electrodes(see figures 9, 12 and column 13, lines 21-38).

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lun-yi, Lao whose telephone number is (703) 305-4873.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached at (703) 305-4938.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Application/Control Number: 09/818,263  
Art Unit: 2673

Page 7

June 10, 2004

**Lun-yi Lao**

  
**Primary Examiner**